6.0 MANAGEMENT PROGRAMS

This chapter provides an overview of the current status and recent innovations of Frederick County's various management programs. Frederick County continually evaluates its stormwater management programs in an effort to identify and bring about needed improvements as required under its NPDES permit. Now that a number of programs have been in operation for several years, it is appropriate to evaluate their progress and effectiveness. Current program components; improvements made during the past year; and plans for future activities, particularly as the County continues to implement management programs under its current permit, are discussed below.

6.1 STORMWATER MANAGEMENT PROGRAM

Frederick County maintains its current Stormwater Management Program in compliance with Environmental Article, Title 4, Subtitle 2, Annotated Code of Maryland. The County will continue to do so through plan review and inspection of all developer projects and through implementation of the *2000 Maryland Stormwater Design Manual* and the Stormwater Act of 2007.

6.1.1 Maintenance Inspections of Stormwater Management Facilities

The Environmental Compliance Section (ECS) of the Frederick County Division of Permitting and Development Review continues to conduct a regular program of preventative maintenance inspections of stormwater management facilities built, approved, and operating within the County. One hundred fifty facility inspections are completed per year. For sites found unacceptable, responsible parties are notified and the site is re-inspected in a follow-up visit to confirm that appropriate actions have been taken to bring the site into compliance. A complete Access database containing data for the inspection program, including enforcement actions, is included on the accompanying CD. Examples of inspection forms and database reporting formats are presented in Appendix C.

During the time period of January 1, 2009 to December 31, 2009, the following inspections were completed:

- Total number of SWM Maintenance facilities inspected: 131
- Total number of facilities finding initial conditions acceptable: 76
- Total number of facilities finding initial conditions unacceptable: 55
- Total number of re-inspected facilities finding site conditions corrected: 18
- Total number of re-inspected facilities finding site conditions not corrected: 3
- Ongoing enforcement actions pending at end of 2009: 37 (all require re-inspection)

Those facilities where site conditions were not corrected were re-notified and given 30 days to comply. The process for follow-up on those facilities deemed "Unacceptable" is as follows:

- If the facility has a "Critical Failure", it is immediately referred to the ECS full-time staff for follow-up and enforcement.

- If the facility has a "Non-Critical" issue, a follow-up re-inspection will be made within 30-45 days. If compliance has not occurred, the issue will be forwarded to ECS full-time staff for enforcement.

Evaluation: The County continues to maintain an acceptable stormwater management program in accordance with State stormwater management laws. This includes implementation of appropriate County ordinances. The County remains committed to implementing the latest stormwater management technologies while addressing the concerns of the development community. In 2009, the Environmental Compliance Section (ECS) made 131 maintenance inspections of Stormwater Management Facilities, which is comparable to an average of 150 per year.

6.1.2 Implementation of 2000 Maryland Stormwater Design Manual

Frederick County implemented the stormwater management design policies, principles, methods, and practices of the 2000 Maryland Stormwater Design Manual and subsequent changes to the Code of Maryland Regulations through the County's Stormwater Management Ordinance and its Design Manual, on June 5, 2001. It became effective July 1, 2001. The Ordinance amended the stormwater management regulations to adopt the 2000 Maryland Stormwater Design Manual Volumes I and II. The Board of County Commissioners adopted the County's Storm Drainage and Stormwater Management Design Manual effective January 2, 2003. This document helps address safe conveyance of runoff in channels, pipes, swales, culverts, etc. to stormwater management facilities and/or receiving channels.

The most significant improvements to the County's implementation of the MD2000 design guidelines continues to be related to the participation with MDE in establishing the necessary changes in law and design guidelines to meet the Stormwater Act of 2007. Frederick County has continued to be committed to working with the state to not only improve the implementation of the existing regulations, but also to achieve the best product for moving forward with the environmental site design implementation in a quick and easy manner once adopted.

Frederick County participated in workgroups, public meetings, design evaluations and other steps involved in amending the current stormwater management regulations and design guidelines. It has also used these discussions to assist staff in their evaluation of design approaches that are submitted for review in accordance with the MD2000 design guidelines.

Evaluation: The County continues to work with the development community and the Maryland Department of the Environment to better understand the goals of the 2000 Maryland Stormwater Design Manual and the objectives of the changes associated with the Stormwater Act of 2007. Enhancements will continue to be made as the manual is changed to comply with the Stormwater Management Act of 2007. The County will also continue to educate both the development

community and the general public in ways to determine the proper type of design for site-specific areas, as well as in facility installation timetables and maintenance issues. Staff will continue to work to address SWM earlier in the process to achieve the best product at the end of the process, as will be required by the changes associated with the Stormwater Act of 2007.

6.2 ILLICIT CONNECTION DETECTION AND ENFORCEMENT PROGRAM

6.2.1 Illicit Connection Program

Frederick County continues to improve its Illicit Connection Detection and Enforcement Program.

ECS field inspectors note evidence of dry weather flows, if present, at all Stormwater Management Structure "As-Built" inspections and at every triennial maintenance inspection. If water is present, inspectors gather chemical information. If water quality test results or inspections indicate potential illicit connections, pollutant sources are identified and appropriate measures are taken to abate violations. These illicit connection screening data are reported on the CD accompanying this report and in examples provided in Appendix C. Additionally, ECS Inspectors investigate complaints alleging violations. Follow-up actions to resolve all suspected water quality problems are documented in the County's field inspection databases.

During the period from January 1, 2009 to December 31, 2009, the County conducted inspections at 131 sites. Field screening results are recorded in the County's facilities database to ensure proper tracking and to follow up when potential problems are detected. There was one incident of a documented spill into the Brunswick 84 Lumber SWM Pond. The spill was identified during an as-built inspection and the source of the spill was removed. This spill is detailed in Section 6.3, Spill Response.

An additional element to the illicit connection program is the establishment of standard procedures for internal and external reporting. During 2009, the County finalized its Illicit Discharge Detection and Elimination Protocol (Versar 2009) that will serve as the field operations and data management manual for the NPDES dry weather screening program (Appendix M). The protocol establishes a system for consistent reporting, referral, and addressing of potential illicit discharges and develops a mechanism for tracking and reporting to satisfy the County's NPDES permit requirements. The protocol was used to perform follow-up investigations on potential illicit discharges at six sites identified during the Stream Corridor Assessment (SCA) survey performed in 2003-2004, and the spring 2008 and spring 2009 Frederick County Stream Surveys (FCSS). During screening conducted on June 25-26, 2009, field staff located five of six targeted outfalls and identified one potential illicit discharge. Results of the investigation are included in Appendix N. Table 6-1 contains the analytes, testing ranges, and criteria for dry weather discharge screening in Frederick County. An overview of procedures and the one illicit discharge detected are presented below:

During screening activities on June 25, 2009, field staff located and confirmed a probable illicit discharge into a tributary of Bolivar Branch of Catoctin Creek within a 103-acre parcel owned by Maryland Department of Natural Resources (Figure 6-1). The parcel is located just east of the

Washington County border, on Old National Pike near the intersection with Dahlgren Road, and forms a portion of South Mountain Natural Environment Area. The outfall is located on the right bank (facing downstream), is eight inches in diameter, and is made of plastic.

Table 6-1. Analytes, testing ranges, and criteria for dry weather discharge screening in Frederick County.

Recommended Analyte	Effluent Type Indicated	Kit or Probe	Exceedance Criterion (Brown *et al.* 2004)	Example Field Kit Test Range (mg/l)
ammonia (NH_4)	sewage washwater industrial	color comparator	NH_4:K > 1 (residential) ≥ 50 mg/l (industrial)	0 to 300
conductivity	industrial	sonde	> 2 mS/cm^2 (industrial)	
surfactants (detergents)	sewage washwater	single analyte meter	> 0.25 mg/l (residential)	0.15 to 1
fluoride	tap water	photometer	> 0.25 mg/l (residential)	0.3 to 2
pH	industrial	sonde	≤ 5 (industrial)	
potassium (K)	sewage washwater industrial	tetraphenyl-boron powder	NH_4:K>1 (residential) ≥ 20 mg/l (industrial)	6 to 50
Chlorine (Cl)*	industrial/drinking water/sewage	photometer	> 0.4 mg/l	0.4 to 5

*Exceedance criteria are based on the test range of the field kit

Prior to the field visit of June 25, 2009, a Frederick County Stream Survey team visited the stream reach on April 16, 2009 to conduct routine, county-wide biological monitoring. The field team reported that the outfall pipe was discharging and that the discharge had a sewage smell. The pipe appeared to originate from the direction of a sanitary sewer manhole.

Field staff used Chemetrics kits to test the effluent from the flowing outfall described above (Figure 6-2). Water quality measurements were taken using a YSI model 600XL multiparameter sonde. The results of chemical testing and water quality measurements are given in Table 6-2.

Of the indicators, detergents and fluoride tested above action criteria. A measurable concentration of potassium and high specific conductivity, while not exceeding action criteria, were also found. Based on the results of the water quality measurements and screening kits, and based on classifications defined in the standard protocol, the discharge was classified as washwater, origin unknown.

The results of this assessment were forwarded to MDE on July 20, 2009. MDE determined that it was most likely discharge from the Dahlgren Chapel WWTP. On September 28 2009, DPW contacted MDE for follow up and learned that the original contact had been misplaced. DPW resent the information. At the time of publication of this report, MDE was still addressing the issue.

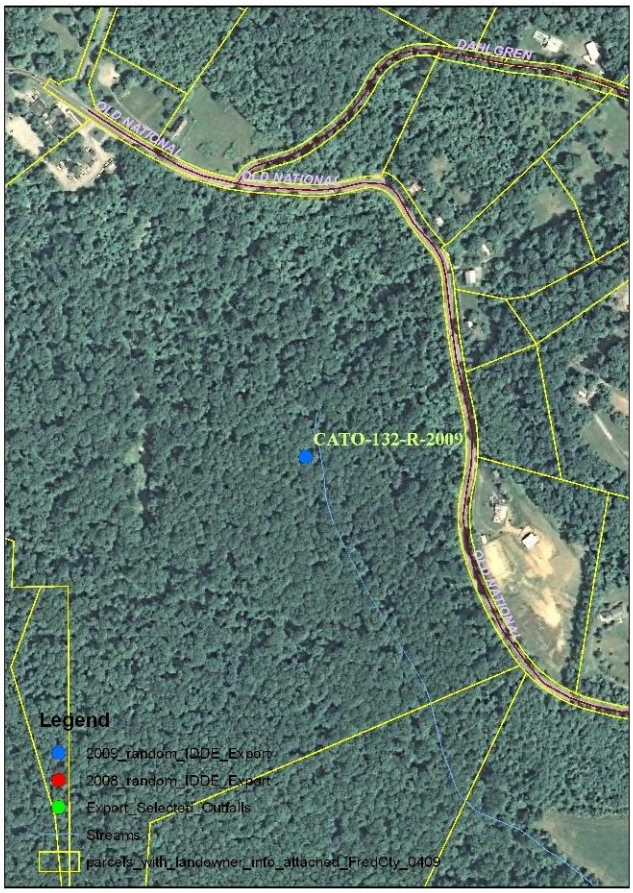

Figure 6-1. Location of site of probable illicit discharge (blue dot).

Figure 6-2. Photo of discharging outfall pipe.

Table 6-2. Dry weather screening results for Catoctin Creek site, July 2009. Results in bold indicate criteria that were exceeded.		
Parameter	**Action criterion**	**Result**
Water temperature	not applicable	18.0 °C
pH	≤ 5	7.7
Specific conductivity	> 2 mS/cm^2	1.93 mS/cm^2
Ammonia (NH_4)	NH_4:K>1 or ≥ 50 mg/l	0 mg/l
Chlorine	> 0.4 mg/l	0.20 mg/l
Detergents	**> 0.25 mg/l**	**0.51 mg/l**
Fluoride	**> 0.25 mg/l**	**0.94 mg/l**
Potassium (K)	NH_4:K>1 or ≥ 20 mg/l	12 mg/l

Evaluation: Frederick County continues to meet permit requirements for addressing and correcting illicit discharges and connections. One potential illicit connection was reported in 2009 and was determined to be a wastewater treatment plant outfall.

6.2.2 NPDES Permit Evaluation Process for County-Owned Properties

As stipulated in items 2a and 2b of Section E, Management Programs, of the County's NPDES MS4 Permit, the County is required to ensure that all non-stormwater discharges to the municipal storm sewer system are permitted or eliminated. All County-owned properties requiring an NPDES industrial discharge permit must be identified and the County must submit documentation that a permit has been applied for or obtained. Consultation by County staff with various County agencies and MDE in 2004 identified fifteen County-owned properties that were required to apply for some type of permit. Eight properties were required to apply for an Industrial Stormwater permit and seven properties were required to apply for a No Exposure Certification for Exclusion. Upon MDE review, seven properties were issued Industrial Stormwater permits and one property was issued a No Exposure Certification for Exclusion. No other permits were needed.

All permit applications have been submitted and are on record with MDE (Table 6-3).

Evaluation: All required permits and No Exposure Certifications have been issued. All permitted County facilities have completed a SWPPP. The County has met all requirements for permitting at County facilities and will continue to review permit needs. As shown in Table 6-3, the permits for a number of facilities were up for renewal in November 2007.

New permits have not been reissued. The following information about when new permits will be reissued is posted on MDE's General Discharge Permit for Stormwater Discharges website (http://www.mde.state.md.us/Permits/WaterManagementPermits/water_applications/stormwater.asp):

"The stormwater permit was administratively extended in November, 2007. Facilities that were permitted prior to that time continue to be regulated by the permit and their stormwater pollution prevention plans. NOIs are still being accepted for coverage under the permit.

Table 6-3. Current status of discharge permits for County-owned properties, originally issued in 2004-2005.

Facility Name	Address	City	Zip Code	Contact	Contact Number	Type of Permit Issued	Permit Number	Permit Issue Date	Permit Renewal Date
Frederick County Transit	1040 Rocky Springs Rd	Frederick	21702	Sherry Burford	301.600.2065	SW Industrial Discharge	02SW1888	1/20/2005	11/30/2007
Frederick County Law Enforcement Complex	110 Airport Drive East	Frederick	21705	Valiree Stine	301.600.1572	SW Industrial Discharge	02SW1942	12/7/2005	11/30/2007
Green Valley Fire-Rescue Station	3939 Green Valley Rd	Monrovia	21770	Douglas Brown	301.600.4634	No Exposure Certification	02SW1898	3/7/2005	3/7/2010
Frederick County Public Schools - Hayward Road Bus Lot	7446 Hayward Rd	Frederick	21702	Laura Olsen	301.644.5150	SW Industrial Discharge	02SW1887	1/22/2005	11/30/2007
Frederick Facility	331 Montevue Lane	Frederick	21702	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1890	3/8/2005	11/30/2007
Johnsville Satellite Facility	13216 Coppermine Rd	Union Bridge	21791	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1891	12/29/2004	11/30/2007
Thurmont Satellite Facility	7407 Blue Mountain Rd	Thurmont	21788	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1892	12/29/2004	11/30/2007
Urbana Satellite Facility	3471-A Campus Drive	Ijamsville	21754	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1893	12/26/2004	11/30/2007

We now expect to have a tentative determination on the permit in late 2009 to early 2010, and to reissue the permit in mid to late 2010…"

Those facilities listed in Table 6-3 will continue to operate as described in their stormwater pollution prevention plans.

6.3 SPILL RESPONSE

In 2009, Frederick County continued to implement a successful program to respond to illegal dumping and spills. Hazardous spill response calls are forwarded to 911; first responders are trained to respond to hazardous spills. Non-hazardous spill responses, including environmental releases, are forwarded to the Watershed Management Section (WMS). WMS forwards this information to the Maryland Department of the Environment for investigation.

During 2009, WMS worked with its NPDES consultant Versar to develop a standard set of procedures for responding to all citizen complaints of spills and illicit discharges, as part of the County's IDDE protocol. The procedures will help citizens report spills to the correct agencies with a minimum of internal transfers. An additional element to the spill response program is the establishment of standard procedures for internal and external reporting. The County's protocol establishes a system for consistent reporting, referral, and addressing of potential illicit discharges, dumping, and spills. This protocol is complete, is presented in Appendix M, and is undergoing internal review.

For hazardous spills requiring evacuation, the Department of Emergency Preparedness is rewriting its Emergency Operation Plan, which will include provisions for an emergency evacuation annex, triggers, escalations and evacuation plans. The County also has a reverse 911 system to perform targeted calling based on georeferenced locations for localized problems like hazardous spills.

The Fire Department coordinates the Local Emergency Planning Committee, required under SARA Title III, and has conducted trial emergency responses in cooperation with British Petroleum for hazardous spills.

The county has a citizen complaint tracker on its website, available from the homepage. This tracker will be updated with new illicit discharge and spill response procedures in 2010, once the internal review of new procedures has been completed, and the procedures have been adopted.

6.3.1 Spill Report #1

The Frederick County Division of Utilities and Solid Waste Management was notified of a sanitary sewer overflow February 24, 2009 at approximately 11 a.m. in the vicinity of the Ballenger Creek Center on the Ballenger Creek Wastewater Treatment Plant collection system.

Division maintenance crews arrived at the site at approximately 11:20 a.m. and immediately attempted to identify the source of the blockage in the 10-inch sewer main. Initial attempts to

clear the blockage were unsuccessful. Crews eventually cleared the obstruction and stopped the overflow at approximately 4:15 p.m.

Approximately 113,000 gallons of untreated sewage was discharged on the ground, but did not reach any waterways. Utilities and Solid Waste Management crews cleaned and applied lime to the affected areas. Signage was posted asking residents to avoid contact with the immediate area until March 6, 2009.

The Maryland Department of the Environment and Frederick County Health Department were notified of this incident. The exact cause of the blockage is currently under investigation. Introduction of foreign material to the sewer line may be responsible. A copy of the press release about the incident can be found in Appendix G.

6.3.2 Spill Report #2

EPA Region III received a complaint from a citizen on September 23, 2009, and forwarded it to Frederick County Government on September 29, 2009, of an ongoing violation regarding practices at Paul Davis Restoration and Remodeling, 5714 Industry Lane, Frederick, MD. The citizen claimed that staff is told to "just dump the water from extraction in parking lots or through stormwater management." Staff immediately forwarded the complaint to Bill Limpert at MDE.

MDE completed its investigation on October 8, 2009 and their report consisted of the following:

I [Don Miller] met with Brock Merwin, VP, and Jerry Yingling, Director of Emergency Services, for the Paul Davis Restoration and Remodeling Company, this date in response to a complaint concerning the improper disposal of wastewater. We reviewed company operations and procedures. The company performs a variety of clean-up and restoration services, some of which produce wastewater. These would include water pipe or hot water heater leak clean-ups, and sewer back up clean-ups. A portable extraction unit is used in many situations. The unit has a waste tank that holds approximately 5 gallons. A large truck mounted extraction unit is used for larger volumes if the location is accessible. The truck waste tank holds less than 300 gallons. The company SOP for wastewater disposal calls for using the sanitary sewer at the extraction location. If a sanitary sewer is not available, a licensed waste hauling company is called. Mr. Merwin stated that all technicians are certified through IICRC and that improper disposal is cause for revocation of certification. He stated that company policy is and has been to properly dispose of all generated wastewater and to not transport it on their vehicles. I was provided a written copy of the disposal SOP and I requested a letter from Mr. Merwin indicating steps taken to reinforce the SOP with company employees.

I received an email response from Mr. Merwin dated 10/12/09, as requested.

After this action, the file was considered closed. Copies of documentation from this investigation can be found in Appendix G.

6.3.3 Spill Report #3

During the period from January 1, 2009 to December 31, 2009, the County conducted inspections at 131 sites. Field screening results are recorded in the County's facilities database to ensure proper tracking and to follow up when potential problems are detected. There was one incident of a documented spill into the Brunswick 84 Lumber SWM Pond on August 26, 2009. The spill was identified during an as-built inspection and the source of the spill was removed.

The inspector (Rick Masser) found that there were "illegally stored hazardous materials in the vicinity edge of the forebay." The site had three approximately 125 gallons tanks, labeled gasoline, diesel, and motor oil, adjacent to the stormwater pond. The site appeared to be a fueling station and some spillage of less than five gallons was apparent on the ground. The inspector instructed the facility to desist and to contact MDE to store the material properly. The site owner removed the material while the inspector was on site. A follow-up inspection on December 14, 2009 showed that the problem had been corrected, and the reinspection passed. Staff in the WMS forwarded the issue to MDE's oil spill program on January 15, 2010 after reviewing Environmental Compliance's database. According to Kathey Finken of MDE, the threshold for reporting a spill is 5 gallons or more, but in the future, all spills of oil material should be reported within two hours of detection so that MDE can make the determination if the site needs further inspection. This has been added to the SOP for illicit connections and spill response.

Evaluation: Frederick County has maintained an active program to respond to spills, including expanding its procedures for public reporting and responding to citizen complaints. The County responded to three spill complaints in 2009. The County continues to develop procedures for public and environmental health and safety.

6.4 EROSION AND SEDIMENT CONTROL PROGRAM

Frederick County Environmental Compliance Section (ECS) strives to maintain an acceptable Erosion and Sediment Control Program in accordance with Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. The County's program is currently undergoing field review by MDE. A formal determination of acceptability is expected by January 1, 2010. ECS has implemented several changes that have allowed a concentration of effort on field inspection and site improvement. Also, several modifications have been made to provide more ways to identify and improve inspector consistency. Several improvements include the following:

- ECS has shifted focus to field-related improvements. The ECS Manager now completes all Security Release requests and all SWM as-built inspections. Over a three-month sampling period, this has freed up the field inspection staff from 93 inspections and over 130 hours of staff time. In addition to providing additional time to the field inspection staff, these inspections allow the ECS Manager to determine how effective sediment control practices have been applied and maintained.

- The ECS Inspection Supervisor is now responsible for an assigned 20 sites and is charged with completing five to 15 quality control inspections per week. In addition, he also responds to the majority of the residential complaints, also freeing up time for the inspection staff.

- Standard Operating Procedures have been written and are provided in notebook format for each inspector. Additions and updates are provided as required. Quality control inspections are routinely conducted to evaluate adherence to our guidelines.

- ECS administrative staff conducts weekly meetings and determines the current status of "Progress and Problems". Formal minutes are taken and provided to the DPDR Deputy Director for her use and information. Weekly, less formal meetings are conducted with all inspection and administration staff to introduce new or updated procedures, conduct training, or to learn about problems and suggestions.

Even in this extraordinary economically challenged time, ECS is receiving budgetary support for equipment and automation, such as:

- All ECS Inspection staff is assigned four-wheel-drive (4WD) vehicles.

- All ECS Inspection staff has full mobile connectivity through use of Panasonic "Toughbook" laptop computers.

There are also several upcoming program enhancements:

- In accordance with changes soon to be enacted for the 2007 SWM ordinance, DPDR staff will be coordinating with the local SCD to enact a joint approach to plan review and clarify each agency's role in the process. We are hopeful that the results will be a more usable product (approved plans) and a seamless incorporation of the new ordinance requirements.

- ECS continues its involvement with the Development Review Outreach meeting. The idea of a more contractor-based meeting has not come to fruition, but topics are being considered for a possible agenda.

- ECS has developed a PowerPoint Presentation for County Projects that outlines the requirements and expectations for permitting and maintaining an environmentally acceptable project. This PowerPoint has been presented to Project Managers within DPW and is slated for presentation to Utilities and Solid Waste Management.

- The ECS Manager maintains a "work plan" that is routinely reviewed and updated by the DPDR Director and Deputy Director. Issues regarding the section's direction and management are discussed and documented. The regular immersion of upper management into the idiosyncrasies of an environmentally based inspection and enforcement program has proven to be extremely helpful and beneficial to all parties.

Frederick County continues its unwavering support in meeting the needs of the state and the expectations of its citizenry to be environmentally sensitive and proactively protective of our natural resources.

6.4.1 Responsible Personnel Certification Classes

Frederick County recognizes the importance of conducting responsible personnel certification classes ("Green Card" classes) to educate construction site operators about erosion and sediment control requirements. It is Frederick County's goal to conduct regular classes to certify responsible personnel as part of its delegation responsibilities. All classes are advertised on County Cable TV, area radio stations, and in local newspapers. Instructional highlights include a PowerPoint slide presentation and a candid question and answer session. Attendees receive their graded test results with the incorrect answers shown and the correct answer circled.

Four "Green Card" classes were held during 2009. Table 6-4 presents certification class dates and the number of attendees recorded at each. All 70 attendees received certification. An Access database containing information on class attendees accompanies this report on CD. Example data are shown in Appendix C.

Table 6-4. Responsible personnel (Green Card) classes held in Frederick County in 2009

Class Number	Date of Class	Number of Attendees	Name of Instructor
1	02/26/2009	32	Masser
2	06/12/2009	28	Masser
3	07/02/2009	4	Masser
4	10/02/2009	6	Masser

6.4.2 Construction Site Data

The Environmental Compliance Section provides quarterly reports of all grading activities disturbing more than one acre to MDE to cross reference against their NOI records. The data submitted includes site name, site owner and address, the amount of disturbed area, the local grading permit number, site location, and the type of development (e.g., residential, commercial, etc).

Evaluation: Frederick County's Erosion and Sediment Control program is well established and is constantly striving for improvement. The County's goal is to establish itself as a model that the State, other delegated jurisdictions, and its citizens are proud of.

Frederick County continues to work closely and cooperatively with the local SCD and the NRCS. The cooperative nature of that relationship has resulted in several policy discussions designed to improve and enhance the sediment control program.

Through its quarterly reports, the County has met requirements for the electronic reporting of earth disturbances in 2009.

6.5 PUBLIC OUTREACH AND EDUCATION PROGRAM

In 2009, WMS staff continued to make impacts through the County's public outreach and education program. Frederick County addressed permit-suggested outreach topics and met its own

goals and objectives from The Strategic Plan to Improve Water Quality Through Public Outreach in Frederick County, Maryland, published in November 2003. County staff continued to organize the Monocacy & Catoctin Watershed Alliance (known as MCWA or the Alliance), a group born of the two Watershed Restoration Action Strategy (WRAS) Steering Committees. The bimonthly meeting schedule enables attendees to discuss educational outreach opportunities as well as to develop restoration and protection projects to support water quality and habitat initiatives. WMS staff coordinated with various County divisions and outside agencies to enhance and track their outreach efforts. Outreach activities were used to educate citizens, to direct the course of watershed plans, and to identify landowners for potential restoration activities.

The results can be seen in the following sections and in the summary of public outreach and education activities in Table 6-5, as well as the public outreach initiatives documented in Appendix H.

6.5.1 Public Outreach Related to Monocacy & Catoctin Watershed Alliance (MCWA)

As described in previous Annual Reports, the Upper and Lower Monocacy Watershed Restoration Action Strategy (WRAS) Steering Committees developed the Monocacy & Catoctin Watershed Alliance (known as MCWA or the Alliance) in order to continue outreach begun during the Upper and Lower Monocacy WRAS efforts and to begin implementation of the Upper and Lower Monocacy WRAS plans.

The efforts of the Alliance continued during 2009. Members gathered for six bimonthly meetings held throughout the County and hosted by various partners. These partners include but are not limited to:

- **Local Organizations**

  - Audubon Society of Central Maryland
  - Catoctin and Frederick Soil Conservation Districts
  - Catoctin Forest Alliance
  - Community Commons
  - Friends of Waterford Park
  - Frederick County Forest Conservancy District Board
  - Catoctin Land Trust
  - ThorpeWood
  - Frederick County Conservation Club
  - Frederick County Master Gardeners
  - Friends of Rural Roads of Frederick County
  - Maryland Chapter of the American Chestnut Foundation
  - Maryland Native Plant Society
  - Cloverhill Homeowners Association
  - Liberty Village Cohousing Community
  - Local Developers, Contractors and Engineering Firms
  - Local Farmers
  - Local Citizens

Table 6-5. Summary of public outreach and education activities		
Type	**Date(s)**	**Description**
Water Conservation		
Great Frederick Fair	9/19-26	WMS program staff assisted the Monocacy & Catoctin Watershed Alliance by coordinating its volunteers to staff a booth for the full eight days of the Frederick County Fair, providing information on harvesting rain water, using native plants, low impact development techniques such as porous pavers, and making wetlands. Many partners assisted during the Fair, covering a total of more than 60 volunteer shifts with approximately 50 volunteers, each of whom received an Alliance T-shirt for the occasion. An estimated 36,363 citizens visited the display.
Alliance Web Page	Ongoing	The Alliance web pages feature information for citizens on water conservation at home, at school, and on the farm.
Rain barrel sale	Ongoing	ICPRB, an Alliance partner, offered rain barrels to Frederick County citizens at a discounted price. In order to receive a rain barrel, citizens were required to participate in a workshop that highlighted information on how to install and maintain the rain barrel as well as information on other landscaping techniques that can be used in connection with the rain barrel to conserve water and minimize stormwater impacts on nearby streams. This program will continue in 2010.
Potomac River Ramble	6/24-28	An annual multi-day canoe/kayak trip that highlights issues facing our local rivers. This year's Ramble featured the Monocacy River, Maryland's first scenic river. Area biologists, resource professionals, and elected officials provided programs throughout the river journey.
Stormwater Management Facility Maintenance		
Woody Vegetation Control Methods Handout	Ongoing	County SWM inspection staff routinely hand out a one-page fact sheet on "Woody Vegetation Control Methods: Guidelines for Stormwater Facilities" to homeowner associations, property management groups, developers, and others responsible for maintaining stormwater management facilities.
Inspection Program	Ongoing	Stormwater Management Facility inspections are conducted triennially with explicit direction for maintenance/correction when problems are discovered.
Clarksburg Special Protection Area (SPA) Workshop	8/11	WMS staff attended a workshop in Montgomery County, MD to learn about stormwater management BMPs that are being implemented and ecological studies that are being performed to monitor the success of the BMPs.
Erosion and Sediment Control		
Backyard Buffers Program	April	The Western Maryland Resource Conservation and Development Council (RC&D), an Alliance partner, worked with the County to publish brochures and conduct outreach that provides free trees to homeowners with frontage on unbuffered streams. The County assisted in identifying streamside landowners from its landowner database for direct mail. The program distributed 125 tree bundles to 114 households in Frederick County. It is estimated that planting of the 125 bundles will result in 10.8 acres of trees on urban and suburban land.
Conservation Tour	8/7	Conservation tour sponsored by the Catoctin Soil Conservation District to illustrate best management practices that have been used to control erosion and stormwater runoff from both agricultural and urban sites.
Lawn Care and Landscape Management		
The Great Frederick Fair	9/19-26	The County assisted Alliance members in presenting information to the public on several Greener Lifestyle topics during the Frederick County Fair, including landscaping with native plants and the use of rain barrels and rain gardens.
11th Annual Native Plant Sale	4/25	The 11th Annual Native Plant Sale was held at the Audrey Carroll Audubon Sanctuary with a large selection of native woody and herbaceous plants as well as information on how to plant and care for them and the benefits of using native plants. The Audubon Society of Central Maryland, an Alliance partner, sponsors the native plant sale.

Table 6-5. (Continued)

Type	Date(s)	Description
Invasive Species Workshop	4/11	Specialists provided information about non-native species that drastically alter our Maryland ecosystem.
The Woods in Your Backyard	5/5, 5/12, & 5/19	A three day workshop series that provided information about how to properly care and maintain wooded property. The workshop was hosted by the Potomac Conservancy, an Alliance partner.
Catoctin Forest Alliance Meetings	5/31, ongoing	The Catoctin Forest Alliance, a MCWA partner, works to preserve and promote the health of the Catoctin Mountain forest for the enjoyment of present and future generations.
Growing Native Program	10/3	The Watershed Management Section partnered with the Potomac Conservancy to host a Growing Native seed collection day at Gambrill Park.
Schoolyard Habitat Celebration	10/29	Twelve schools participated in an information celebration to share details of projects installed on Frederick County Public School properties over the past year.
Urban Forestry Webinar	11/18	WMS staff presented during the Center for Watershed Protection's Urban Forestry Webinar. Staff shared information about the Frederick County Public School's Urban Tree Canopy Goal that has been adopted.
PLANT Award Program Chair for the Maryland Urban and Community Forest Committee	Quarterly	The Community Restoration Coordinator is the PLANT Award Program Chair for the Maryland Urban and Community Forest Committee (MUCFC) and participates in quarterly meetings. The MUCFC is a volunteer group of citizens, professionals, and government officials united to protect and enhance Maryland's forest ecosystems. MUCFC is a sub-committee of the Maryland Association of Forest Conservancy District Boards. The primary functions of the Committee are to promote and coordinate the Maryland Community PLANT Award Program that officially recognizes communities planting and caring for trees, and to administer Grants to schools and communities through their local Forestry Boards that promote planting and care of trees.
Alliance Web Page	Ongoing	The Alliance website contains information relating to lawn care and landscape management.
Household Hazardous Waste		
County Web Page	Ongoing	The Department of Solid Waste Management has information available on a website (http://www.frederickcountymd.gov/index.aspx?NID=108) for County residents on various Landfill Programs, such as disposal of household hazardous wastes, recycling, source reduction, and backyard composting.
Used Motor Oil and Antifreeze Dropoff Sites	Ongoing	The county maintains a list of used motor oil recycling drop-off locations on its website (http://www.frederickcountymd.gov/index.aspx?nid=1753).
Household Hazardous Waste Day	2x/year 6/13 & 10/31	The County sponsors two household hazardous waste days each year and promotes them widely in the media. Pharmaceuticals are now acceptable items for drop-off at HHW events.
Great Frederick Fair	9/19-26	The WMS staff and Alliance partners staffed a booth for the full week of the Frederick County Fair, which featured information on natural household cleaners from the County's Greener Lifestyle Series.
Litter Control, Recycling, and Composting		
8th Annual Big Sweep	4/25	Frederick County co-sponsored this annual cleanup organized by Volunteer Frederick, involving approximately 1100 volunteers. The County provided trash pickup and waived tipping fees at the landfill. A total of 11.05 tons of trash were collected along with 4.27 tons of recyclables and 389 tires.

Table 6-5. (Continued)

Type	Date(s)	Description
Potomac River Watershed Cleanup	4/4	The event was a watershed-wide effort to clean up trash along the Potomac River. Partners included the Alice Ferguson Foundation, Frederick County Government, and the Potomac Conservancy.
Frederick County "Adopt-a-Road" Program	Ongoing	The Office of Highway Operations runs an "Adopt-a-Road" Program to help control litter along County roads.
Frederick County Single Stream Curbside Recycling Program	1/26	Frederick County Board of County Commissioners and the Division of Utilities and Solid Waste Management implemented a single stream recycling program in an effort to expand the program, increase participation, and increase the quantity of material recycled. 2,744,900 pounds of recyclables were collected in April 2009.
Excellence in Solid Waste Management Award	9/24	Frederick County's Division of Utilities and Solid Waste Management was awarded the Bronze Excellence in Solid Waste Management Award, in the category of composting systems.
America Recycles Day	11/12	The Frederick County Recycling Office invited County residents to celebrate America Recycles Day. As part of the effort, the Recycling Office staged a "Recycle Right Contest" to encourage area citizens to correctly recycle their household materials.
Frederick County Recycles	Quarterly	Four times a year Frederick County's Department of Solid Waste Management sends out useful information on the county's recycling program, including important updates, interesting facts and tips for creating less waste.
County Web Page	Ongoing	The Department of Solid Waste Management has information available on a website (http://www.frederickcountymd.gov/index.aspx?NID=108) for County residents on various landfill programs, such as disposal of household hazardous wastes, recycling, source reduction, and backyard composting.
Car Care, Mass Transit, and Alternative Transportation		
Earth Day	4/21	TransIT Services observed Earth Day by providing free rides on Connector and Shuttle routes.
Bike to Work Day	5/15	Frederick County TransIT invited area citizens to participate in this annual event to promote biking to work as a healthy alternative to a drive-alone commute, lessening traffic congestion and improving air quality. TransIT provided free rides to bicyclists who combined biking with riding public transportation.
Dump the Pump Day	6/18	TransIT joined with other transportation systems to celebrate National Dump the Pump day by providing free rides on Connector and Shuttle routes.
County Web Page	Ongoing	The Transit Services of Frederick County web page (http://www.frederickcountymd.gov/index.aspx?nid=105) contains information on public transit routes, schedules, commuter assistance, rider bulletins, a ride-share matching service, and other information to facilitate the use of mass transit service such as: • Addition of schedules for TransIT and other regional transportation options • Addition of travel training videos

Table 6-5. (Continued)

Type	Date(s)	Description
TransIT Improvements	2009	• TransIT provided 791,961 passenger trips in FY 2009. • TransIT adjusted their Meet-the-MARC shuttle to accommodate changes in the MARC schedule to provide better service for commuters. • TransIT adjusted other route schedules to improve time transfers made by commuters between routes. • Dispatch hours were extended to cover evenings, Saturdays, and holidays. • TransIT offered free rides on Code Red air quality days to help reduce emissions from vehicles.
The Transportation Services Advisory Council (TSAC)	Ongoing	TSAC is appointed by the Board of County Commissioners to provide guidance and support to TransIT and transportation-related decision-making within the County. Members include consumer, business, human service, regional, and at-large representatives. The mission of the TSAC is to identify transportation trends and issues, to increase public awareness of transportation alternatives, and to influence public policy by advising Frederick County elected officials and decision-makers on the development of a comprehensive and coordinated regional transportation network. Additionally the TSAC: • Co-sponsored a Transportation Conference to promote a balanced transportation network in Frederick County. • Supported development of transit-friendly design guidelines to integrate transportation and land use planning. • Supported redesign of the proposed downtown MARC train station. The MARC station design was changed to provide an off-street passenger transfer point for the local bus system.
Public Education and Media Outreach	Ongoing	• The County has brochure stands in conspicuous places (e.g., lobby of Winchester Hall) that include all of the public transit routes, schedules, and alternative transportation programs. • Increased visibility of TransIT in the community was achieved through marketing and outreach efforts. The County participated in community events that included the Business and Employment Center Job Fair, Transitioning Fair at Frederick Community College, Communities in Motion Day, NIH Transportation Fair, Fun After 50 Fallfest, Elder Expo, the Great Frederick Fair, the Chamber of Commerce Business Expo, Business Appreciation Week, In the Streets Festival, Bike To Work Day, and the 5th Annual Stuff-A-Bus. TransIT staff participated in partnership efforts with local and regional groups and organizations, including the Frederick Area Committee for Transportation, the Frederick County Chamber of Commerce, the Downtown Frederick Partnership, the Maryland Transit Administration, and the Washington Metropolitan Area Transit Authority. In addition, staff met with human service providers and job training counselors to discuss local transportation needs and ways to improve transportation services. • TransIT advertising appeared on local radio, television, print, on-line media, and on-screen cinema advertising. News stories featured the County's Summer Pass Program for teens, annual ridership increase, Air Quality Action Days, Bike to Work Day, Communities in Motion Day, new service proposals, and TransIT Drivers of the Year. • Three new regional rideshare commercials promoted car and vanpool options. • TransIT Lines, a newsletter for community service professionals and their clients; and F.A.S.T. Notes, a newsletter on transportation options, were distributed quarterly.

Table 6-5. (Continued)

Type	Date(s)	Description
Private Well and Septic System Management		
Bay Restoration Fund "Flush Tax" Program	Complete	The Frederick County Health Department, in partnership with the Canaan Valley Institute (CVI), installed 35 upgraded OSDS systems using funding from the Bay Restoration Fund Program. CVI worked with the Health Department to identify and prioritize potential sites, coordinate with homeowners, select appropriate technologies, oversee installation, and establish a management framework.
Booklet	Ongoing	During field inspections, the Frederick County Health Department provides booklets on septic maintenance to applicants requesting permits for accessory buildings.
Presentations	Periodic	Health Department personnel presented information on proper well and septic system inspection and maintenance at realtor meetings.
Procedures for Public Identification and Reporting of Illicit Discharges		
Program Web Site	Ongoing	The County's citizen request tracker online (http://www.frederickcountymd.gov/requesttracker.aspx) and MCWA web site (http://www.watershed-alliance.com/mcwa_problem.html) contains information describing illicit discharges, presents examples, and provides contact information.
Providing Information to Regulated Community		
NPDES Phase II assistance to Municipalities	Ongoing	WMS staff continues to meet with municipalities, by request, in support of their NPDES Phase II permits. The County has provided sample handouts, activities, and other information to assist with implementing recommendations made by MDE upon review of the first annual reports submitted by the municipalities. Staff has also involved municipalities within Frederick County, as well as in Washington and Carroll Counties, in the training by the Center for Watershed Protection on illicit discharge detection and elimination.
Alliance Web Site	Ongoing	The Alliance web site contains background information on stormwater, the County's NPDES Permit, and other storm-water-related information. The web site also contains information on sediment and erosion control permits, Forest Resource Ordinance Permits, and inspections for sediment control and SWM facilities.
NPDES Industrial Stormwater Permit Evaluation and Stormwater Pollution Prevention Plans	Ongoing	County properties were evaluated for the need for industrial stormwater discharge NPDES permits. WMS Staff assisted County offices with applications. WMS staff developed a Stormwater Pollution Prevention Plan (SWPPP) template with instructions and provided assistance to County offices to complete the document.
Meeting with Carroll County NPDES staff	1/29 & 2/19	WMS staff met with Carroll County NPDES staff to share information about how various programs are being implemented. Information shared included: project tracking, SWM retrofit projects, NPDES monitoring, and education and outreach.

Table 6-5. (Continued)

Type	Date(s)	Description
Other Outreach and Education Initiatives		
Green Infrastructure Meetings with EPA Region III & other partners	3/12, 10/1, 10/7, 11/4	WMS staff has coordinated meetings with EPA Region III, MDE, and DNR to discuss development of a Green Infrastructure Plan for Frederick County. Staff organized a meeting for state and federal agencies to discuss how to better serve local governments and meet new Executive Order requirements in the context of protecting Green Infrastructure. Staff organized a Green Infrastructure day in the County that included morning presentations by outside presenters and afternoon exercises. The morning session was attended by three County Commissioners and a number of Sustainability Commissioners. Staff also presented the requirements of the NPDES permit and the need for Green Infrastructure planning to the Sustainability Commission.
NatureFest at Fountain Rock Park	5/30	WMS and Alliance partners manned a booth at the NatureFest held at Fountain Rock Park this past spring. Information about native plants, lawn care, the Schoolyard Habitat Program, and other educational materials were shared with visitors.
Monocacy & Catoctin Watershed Alliance	1/8, 3/26, 5/21, 7/23, 10/15, 12/18	Staff met with interested partners from the Monocacy & Catoctin Watershed Alliance to discuss and develop restoration and protection projects as well as outreach and education materials. The Alliance maintains a website at www.watershed-alliance.com.
Maryland Green School Awards 2009	6/1	Five Frederick County Schools have been certified at Green Schools through the Maryland Association of Environmental and Outdoor Education's (MAEOE) Maryland Green School Awards Program. WMS staff attended the awards ceremony to support the efforts of schools that partnered on restoration projects during 2009.
Maryland Water Monitoring Council Board of Directors meeting	7/14	WMS staff gave a presentation on Frederick County's Urban Wetlands Program at the Maryland Water Monitoring Council Board of Directors summer meeting. Staff presented information on the County's ongoing efforts to build and expand an urban wetlands program in the County.
Wetlands Advisory Committee	8/6	WMS partner, the Center for Watershed Protection (CWP), is developing a methodology for local governments to use to map and protect vulnerable wetland infrastructure. WMS staff participated in the Wetlands Advisory Committee meeting to provide feedback about how methods could be implemented on a local government scale. Staff is continuing to coordinate with CWP staff to potentially test a pilot effort in Frederick County.
Watershed Runoff Investigation	9/14 & 9/15	Urbana HS and Windsor Knolls MS were partners on wetland projects installed at each school. Students from both schools participated in planting the wetland projects. As part of the wetland planting day, USFWS staff conducted a Watershed Runoff Investigation to educate students on how stormwater can have a negative impact on water quality and what techniques can be used to help reduce the impacts.
Schoolyard Habitat/Outdoor Classroom Training presentation	11/4	WMS staff gave a presentation discussing the efforts to partner with the County's Schoolyard Habitat Program. Detailed information was provided about specific projects that were installed. Adoption and continued implementation of the Frederick County Public School's Urban Tree Canopy goal was also discussed.
Maryland Wetland Monitoring Strategy Workgroup	Ongoing	WMS staff has participated in meetings to develop a statewide wetland monitoring strategy. The meetings have been coordinated and led by MDE staff. Efforts to coordinate with the state and to incorporate existing County efforts have been discussed.

Table 6-5. (Continued)

Type	Date(s)	Description
Catoctin, Antietam, and Monocacy Brookie Initiative (CAMBI) meeting	Ongoing	Staff is facilitating the activities of CAMBI.
Alliance Web Site	Ongoing	The Alliance web site contains background information on stormwater problems, the County's efforts to manage nonpoint source (NPS) pollution, assess watersheds, and conduct water quality and stream monitoring.
Frederick County Sustainability Commission	Ongoing	The Frederick County Sustainability Commission meets every month on the third Wednesday. The commission provides the Board with a community-based perspective on issues related to sustainability and guides the development of a Frederick County Sustainability Plan.
Special Programmatic Conditions		
Upper Potomac Tributary Team	Ongoing	County representatives attended tributary team meetings and participated in activities related to the team, including the preparation of nutrient strategies for the basin.
TMDL Implementation	Ongoing	Staff has participated in a committee with MDE's TMDL Program to provide guidance to local governments on TMDL implementation. Staff continued to meet with Jim George of the TMDL Program to discuss Frederick County TMDL implementation. WMS staff has developed a database tool to track pollution reductions based on BMP implementation. Staff will ultimately use the tool to create baseline and cap management strategies.
Chesapeake Bay 2000: Green Infrastructure	Ongoing	Staff from WMS and Comprehensive Planning gave presentations to two classes on Green Infrastructure at the National Conservation Training Center with FWS and land conservation organizations, focusing on green infrastructure and Bay Program requirements in Frederick County, MD.
Potomac Watershed Partnership	9/30	WMS met with Potomac Watershed Partnership to review problems and solutions relating to Potomac Watershed and Bay Program goals. WMS staff gave a presentation on Frederick County's Urban Wetlands Program and the County's ongoing efforts to build and expand an urban wetlands program in the County.

- **Regional Organizations**

  - Canaan Valley Institute
  - Potomac Conservancy
  - Chesapeake Wildlife Heritage, Inc.
  - Chesapeake Bay Foundation
  - Upper Potomac Tributary Team
  - Potomac Watershed Partnership
  - Western Maryland RC&D
  - Interstate Commission on the Potomac River Basin (ICPRB)
  - The Center for Watershed Protection
  - Potomac Valley Fly Fishers, Inc.

- **Funding Agencies**

  - National Fish and Wildlife Foundation
  - Chesapeake Bay Trust
  - Alice Ferguson Foundation
  - Maryland Department of the Environment/U.S. EPA Clean Water Act Section 319 (h) Program
  - Maryland Urban & Community Forestry Committee (MUCFC)

- **Educational Institutions**

  - Hood College
  - Mount Saint Mary's University
  - University of Maryland Environmental Finance Center
  - Frederick County Public Schools

- **Government Organizations**

  - Frederick County Board of County Commissioners
    - Division of Public Works, Watershed Management Section
    - Division of Planning
    - Division of Solid Waste and Utilities
    - Health Department, Environmental Health Section
  - U.S. National Park Service
  - Catoctin Mountain Park
  - Monocacy National Battlefield Park
  - Rivers, Trails and Conservation Assistance
  - U.S. Environmental Protection Agency
    - Chesapeake Bay Program
    - Environmental Information and Analysis

- Maryland Department of Natural Resources
  - Forest Service
  - Fisheries
  - Watersheds Program
- Maryland Department of the Environment
- Fort Detrick
- U.S. Fish and Wildlife Service
- Maryland State Highway Administration
- Municipalities in Frederick County

Public outreach efforts implemented by the Alliance during 2009 included the Watershed Steward Program, quarterly E-newsletters, participation in the 2009 Frederick County Fair, and the continued expansion of the Alliance website.

The Alliance website (www.watershed-alliance.com) features articles covering six general topic areas: Protect, Restore, Enjoy, Connect, Educate, and Study. New articles in each section are posted quarterly. The website also features other pages that provide answers to frequently asked questions, a calendar of events, links to various websites, information on how to report a problem, information on the watersheds of Frederick County, and publications.

Quarterly E-newsletters highlight newly added articles that provide tips to citizens or information on recent restoration and outreach efforts as well as upcoming volunteer opportunities posted on the Alliance website. It is currently sent to more than 950 County households and/or Alliance partners.

The MCWA Watershed Steward Program was developed to recognize the efforts of community members to protect and restore the natural resources of the Monocacy & Catoctin watersheds in Frederick County by implementing conservation and best management practices on their property. Watershed Steward signs are available to community members who meet the criteria for one of eight different categories:

1) Improving Watershed Health Through Community Partnerships
2) Rain Garden
3) Forest Conservation Practice
4) Agricultural Conservation Practice
5) Forest Land Protection
6) Farm Land Protection
7) Tree Planting
8) Wildlife Habitat Improvement

Alliance members developed a set of criteria and a nomination form to be completed by the sponsor. The original printing of the signs was funded through a grant from the Chesapeake Bay Trust with a match provided by the Frederick County Watershed Management Section. So far, over 180 signs have been distributed and installed around the County.

Other outreach efforts of the Alliance included participating in the Frederick County Fair (Great Frederick Fair) in September 2009. More than 50 Alliance volunteers staffed the booth to offer education and outreach throughout the week. An estimated 36,000 citizens visited the booth located in the City Streets, Country Roads exhibit. The booth focused on opportunities for citizens to restore and protect water quality and habitat. It included information on the Urban Wetlands Program (including a demonstration wetland with live wetland plants, an interactive game, and educational signage), the Bennett Creek Urban BMP Demonstration project, and various restoration and conservations efforts led by Alliance partners.

6.5.2 Other County Outreach Initiatives

Along with the Division of Public Works, other Divisions in Frederick County government are reaching out to the public in a variety of ways. Some of these initiatives are discussed in detail below.

6.5.2.1 Frederick County Recycling Program

The Frederick County Recycling Program was able to divert a growing proportion of solid waste from the landfill by promoting recycling among county residents. In fiscal year 2009, 16,323.23 tons of waste were collected and recycled from the County's residential curbside and satellite drop off programs (Table 6-6). In 2009, Frederick County reported a recycling rate of 41.39% and a source reduction credit rate of 3% for a combined waste reduction rate of 44.39%.

Table 6-6. Quantity of recycled material by type

Frederick County Tons Recycled					
	FY05	**FY06**	**FY07**	**FY08**	**FY09**
Recycling Collected on Curbside	8,618.82	9,079.20	9,802.16	10,793.33	12,393.2
Recycling Collected at Drop-off Centers	6,504.14	4,491.45	4,635.22	4,741.31	3,930.03
Used Motor Oil	340.00 estimate	330.01	323.25	296.52	236.62
Antifreeze	13.00 estimate	17.30	12.44	10.89	13.31
White Goods/Scrap Metal	1,835.05	1,767.21	1,491.04	1,530.70	1,296.706
Tires	243.43	174.15	135.25	109.76	96.88
Car Batteries	71.45	61.19	52.08	29.98	41.62
Flexible Foam	2.35	3.54	3.61	5.36	10.09
Pallets	281.21	218.05	383.17	532.61	554.00
Yard Trimmings	22,071.74	21,440.07	20,903.07	20,971.18	20,797.41
Electronics		36.86	166.18	189.14	252.41
Textiles*			1.91	4.86	7.08
TOTAL	39,981.19	37,619.03	37,909.38	39,215.64	39,629.36

* new program started May 2007

Household Hazardous Waste Days are held twice annually: once in the spring and once in the fall (Table 6-7). They are held at the Public Safety Training Facility.

Table 6-7. Household Hazardous Waste Day events						
	May 2007	**October 2007**	**May 2008**	**October 2008**	**May 2009**	**October 2009**
Collection Cost	$11,491.05	$11,122.70	13,155.75	$11,264.03	$14,142.39	N/A
Advertising	$2,107.32	$2,388.56	2,338.75	$2,156.47	$2,464.32	$2,464.32
Total Cost	$13,598.37	$13,511.26	15,494.50	$13,420.50	$16,606.71	N/A
Vehicles Attended	282	271	392	324	477	375
Cost Per Resident	$48.22	$49.86	$39.53	$41.42	$34.81	N/A
Pounds Collected	9,420	9,220	14,780	9,540	15,300	14,360

6.5.2.2 Alternative Transportation

In 2009, TransIT services experienced record ridership between July and October. TransIT ridership increased for the 13th consecutive year to 791,961 passenger trips, an increase of 7%. Ridership has more than tripled since 2007 and more than doubled since 2003. Ridership increased by 7% on the Connector routes and 14% on shuttle routes. Frederick County Government implemented a fuel conservancy plan. TransIT was able to achieve a 3% reduction.

TransIT offers several free ride promotions each year to encourage people to try public transit. In 2009, two of these days included Earth Day and Dump the Pump day which resulted in an increase in ridership of 46%. Bike to Work day participation increased by 58%. All total, TransIT participated in 29 community events. Articles about TransIT services appeared 20 times in local newspapers. TransIT staff provided trip planning assistance to over 24,000 callers, a 20% increase over the prior year.

The Transportation Association of Maryland (TAM), a statewide association of over 40 rural and urban transportation providers, named TransIT fixed-route driver Chris Wilson and paratransit driver Lori Wisner, "Drivers of the Year".

TransIT's website (http://www.co.frederick.md.us/index.asp?nid=105) contains a wealth of information on TransIT services as well as regional transportation alternatives. Links are provided to schedules and maps for TransIT, MARC train, MTA Commuter Bus to Shady Grove Metro, Montgomery County Ride-On and Metro. There is a Travel Training video that can be viewed from the site. Rider bulletins, press releases, annual reports, and newsletters are also available. There are links to information for seniors and persons with disabilities, commuters, vanpoolers, and those interested in Telework.

TransIT promotes alternatives to driving as well as providing assistance with:

- Commuter trip planning via phone or email (301.600.2065 or transit@frederickcountymd .gov).
- Formation of vanpools - TransIT provides free on-line ride-matching and provides a financial incentive for first year vanpools with open seats. TransIT assists existing and new vanpools in finding riders.

- Employer Services - TransIT can provide local employers with assistance in setting up telework programs, assessing parking management, employee commute surveys, providing commute tax benefits, and more.
- Air Quality Action Days (AQAD) - TransIT e-mails over 2000 County employees and over 700 City employees on Code Red days to advise how they can help improve Air Quality. TransIT recruits employers for the AQAD program. As participants in the program, employers notify employees of ways they can improve Air Quality and provide information on transportation alternatives.
- Bike to Work Day - TransIT sponsors a "pit stop" at the downtown Transit Center to promote biking as a driving alternative.

6.5.2.3 Private Well and Septic System Management

The Frederick County Health Department provides citizen education and outreach materials on proper septic system maintenance and well testing and protection. During site visits to evaluate accessory building permit applications, Health Department staff distributes copies of a handbook on septic system maintenance. By Frederick County Ordinance, a well providing a sufficient yield must be drilled on a building lot prior to issuance of a building permit to the property owners. Once the house has been built, the Health Department directs the homeowners to have the water tested to secure a Certificate of Potability, indicating the quality of the water supply. In addition, Health Department staff present information at meetings of boards of realtors at least twice annually to acquaint new real estate professionals with requirements for proper management, inspection, and maintenance of wells and septic systems.

The Frederick County Health Department, in partnership with Canaan Valley Institute (CVI, a Monocacy & Catoctin Watershed Alliance partner), was awarded over $700,000 through the Maryland Bay Restoration Fund (BRF) in order to address nutrient impacts by failing and under-performing On-site Disposal Systems (OSDS) in the Monocacy Watershed and in Frederick County's proposed source water protection areas.

Throughout Frederick County, 35 OSDS were upgraded to reduce the concentration of nitrogen in the OSDS effluent by 50% or more. CVI worked with the Health Department to identify and prioritize potential sites, coordinate with homeowners, select appropriate technologies, oversee installation, and establish a management framework.

The upgraded systems included a commercial-sized system at Eunice's Restaurant on Biggs Ford Road. All of the systems have replaced failing or out of date, non-compliant systems such as cesspools.

The Frederick County Health Department continues to distribute a manual about septic system maintenance during site visits.

Evaluation: Frederick County continues to excel in public outreach. Not only has Frederick County addressed all of the suggested topics for outreach in the NPDES permit, it has also extended its public outreach strategy to meet restoration goals. Frederick County has greatly

expanded its network through partnerships with local and regional organizations, particularly through the Monocacy & Catoctin Watershed Alliance. Agencies within Frederick County continue to educate the public about water quality through diverse programs.

6.6 ROAD MAINTENANCE ACTIVITIES

During 2009, Frederick County continued to implement recommendations from its 2002 assessment of road maintenance practices (Versar 2002). The objective of this study was to assess the effects of road maintenance activities on stormwater runoff and resulting impacts on surface water quality. The assessment evaluated current practices, analyzed alternative practices, and presented a plan to incorporate alternative practices into the County's road maintenance programs. Members of the County's Department of Highways and Transportation provided data and information on current practices and plans of the Department.

Activities included in the evaluation included:

- chemical usage in snow and ice removal,
- herbicide spraying for vegetation control,
- street sweeping,
- litter control,
- road surface maintenance, and
- maintenance of unpaved surfaces.

The assessment report was submitted to MDE on June 11, 2002 and was found to meet NPDES permit requirements for developing a plan to reduce pollutants associated with road maintenance activities.

The County continues to move ahead with several of the recommendations developed in the June 2002 evaluation report. An example of quarterly reports for January to December 2009, prepared by the Office of Highway Operations for a variety of subject areas, is provided in Appendix I. Some of the activities that the County Office of Highway Operations undertook in 2009 to reduce runoff pollution were:

1. Street Sweeping: Street sweeping was conducted in second quarter of 2009. A total of 382 acres (196.93 miles) of road were swept. A total of 212 cubic yards of debris were collected. The County tends to apply more deicer to bridges and currently removes these materials after storm events in response to citizen requests. A total of 48.31 acres of bridge decks were swept in 2009. Street sweeping totals decreased in 2009 due to fuel conservation needs.

2. Litter Control: The Office of Highways and Transportation removed a total of 153.63 tons of trash and 1,036 tires during 2009. They were a main sponsor of the Big Sweep Cleanup in 2009, which removed 11.67 tons of trash including 419 tires from county roads and illegal dumpsites. Additionally, the Department continued its Adopt-A-Road program in 2009.

3. Deicing: Caliber M1000, which is a 30% Magnesium Chloride solution with an agricultural by-product, is used in 41 of the County's trucks when the temperature is $\leq 20^{o}$F. The trucks

are equipped with 90-gallon tanks that apply the solution onto the salt mixture as it is spread onto the road. Overall, the County has 51 full-sized ten-ton dump trucks and nine smaller one-ton dump trucks for deicing. The additive makes the salt mix more effective and prevents corrosion. The County has not yet determined if the additive is cost-effective at temperatures above 20ºF. The State uses 100% Magnesium Chloride at all temperatures; however, it is very corrosive. According to product literature for Caliber M1000 (http://www.anti-icers com/caliber_m1000.htm):

"As a pre-wetting agent for salt and sand, Caliber M1000 reduces bounce and scatter, increases the speed at which the salt begins working, increases the melting capacity of the salt, and permits the use of salt at lower temperatures. Additionally, Caliber M1000 also reduces corrosion, inhibits crystal formation and product fallout at lower temperatures, and improves roadway traction when compared to other liquid products."

Additional information on Caliber M1000 is also available at http://www.es-pa.com /caliberm1.htm#ENVIRONMENTAL_PROPERTIES

The use of deicers in 2009, by DNR watershed, is presented in Table 6-8. A total of 25,615 gallons of liquid deicer (Caliber M1000), 13,942.63 tons salt (consisting of over 98.5% sodium chloride by weight), and 3,796.83 tons Anti-Skid were used in 2009 for all watersheds. Beginning in 2009, Highway Operations no longer purchased cinders. This was a result of the distributor suspending distribution of bottom ash for winter road treatment in order to conform to the Maryland Coal Combustion Byproducts (CCB) regulations. These regulations prohibit placement of CCBs in areas other than approved disposal facilities. As a result, Highway Operations began using an Anti-Skid material purchased from local quarries. It is a small, uniform size stone that contains very little dust/fine material. Thus far, the material has been working well.

Starting in December 2008, one of the objectives of Highway Operations is to use more liquid deicer in an attempt to use less salt. They are also pre-treating the roads, whenever appropriate, to apply material under the snow/sleet/ice layer so that frozen precipitation cannot bond to the road, which should result in a significant reduction in materials used. In 2009, DPW GIS and Highway Operations began implementing the Snow Plow Data Project. The goal of the project is to allow wireless data downloads for mapping of snow plow truck operations. The data downloads allow Highway Operations to analyze the effectiveness and amount of material applied for budget planning, environmental impact, and snow plow operations efficiency.

4. Inlet Cleaning: All Highway Operations foremen began reporting inlet-cleaning statistics in 2004. A total of 717 inlets were cleaned in 2009. In addition, 30 inlets were vactored. Inlet-cleaning statistics are reported in the quarterly reports under Drainage (Appendix I).

5. Data Collection: Reports were collected quarterly from district foremen and submitted to the department head. At the end of 2009, data collection improvements were made to better track application of snow removal materials as discussed above under “Deicing”.

Table 6-8. The use of deicers in 2009, by DNR watershed

Date	Catoctin Creek			Double Pipe Creek			Lower Monocacy			Potomac			Upper Monocacy			Totals		
	Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons	
	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid
1/6/2009	320.00	137.75	58.00	80.00	9.38	3.13	460.00	280.60	66.20	120.00	38.05	8.25	620.00	178.55	50.85	1,600.00	644.33	186.43
1/7/2009	160.00	81.25	40.25	0.00	0.00	0.00	0.00	48.94	11.31	20.00	2.18	0.73	0.00	59.20	29.40	180.00	191.56	81.69
1/8/2009	0.00	26.25	12.50	0.00	0.00	0.00	0.00	7.50	2.50	0.00	0.00	0.00	0.00	19.73	6.58	0.00	53.48	21.58
1/10/2009	0.00	58.00	27.50	0.00	5.63	1.88	0.00	17.25	5.75	0.00	0.00	0.00	0.00	36.23	19.58	0.00	117.10	54.70
1/11/2009	0.00	28.13	21.38	0.00	3.75	1.25	0.00	11.25	3.75	0.00	0.00	0.00	0.00	52.85	25.95	0.00	95.98	52.33
1/15/2009	580.00	140.00	43.00	70.00	30.00	10.00	245.00	152.38	49.13	100.00	21.00	7.00	990.00	240.15	72.05	1,985.00	583.53	181.18
1/19/2009	280.00	135.13	51.25	0.00	15.00	5.00	295.00	296.00	83.50	10.00	38.50	9.50	240.00	146.35	43.45	825.00	630.98	192.70
1/20/2009	0.00	15.88	3.13	0.00	1.88	0.63	0.00	95.04	23.01	10.00	4.46	1.49	0.00	18.45	6.15	10.00	135.69	34.40
1/26/2009	160.00	49.25	14.75	0.00	0.00	0.00	0.00	6.00	2.00	0.00	0.94	0.31	0.00	22.13	7.38	160.00	78.31	24.44
1/27&28/09	2,380.00	585.50	175.50	0.00	101.25	33.75	870.00	1,336.50	339.50	200.00	185.98	35.33	2,450.00	731.35	235.78	5,900.00	2,940.57	819.86
1/29/2009	80.00	70.00	21.00	0.00	7.50	2.50	0.00	89.00	27.00	10.00	27.55	4.75	0.00	23.48	25.33	90.00	217.53	80.58
1/30/2009	0.00	1.88	0.63	0.00	0.00	0.00	0.00	1.88	0.63	0.00	0.00	0.00	0.00	0.00	4.00	0.00	3.76	5.26
2/2/2009	0.00	75.13	23.38	0.00	1.88	0.63	0.00	12.38	4.13	0.00	0.00	0.00	0.00	76.20	25.40	0.00	165.58	53.53
2/3/2009	0.00	25.50	27.88	0.00	0.00	0.00	0.00	22.13	7.38	0.00	0.00	0.00	0.00	19.97	6.66	0.00	67.59	41.91
2/4/2009	260.00	96.38	43.25	80.00	15.00	5.00	120.00	269.32	69.50	0.00	15.38	5.13	290.00	115.80	38.60	750.00	511.87	161.48
2/15/2009	0.00	7.88	2.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.88	2.63
2/18/2009	560.00	108.13	46.50	0.00	13.13	4.38	80.00	166.48	50.83	0.00	28.43	9.48	500.00	128.55	51.60	1,140.00	444.70	162.78
2/22/2009	0.00	8.25	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.88	4.63	0.00	22.13	9.13
3/1/2009	560.00	143.50	55.25	0.00	16.88	5.63	240.00	237.25	65.75	80.00	46.00	12.00	700.00	182.30	52.10	1,580.00	625.93	190.73
3/2/2009	800.00	277.50	86.50	0.00	44.63	14.88	410.00	546.63	124.88	0.00	97.00	19.00	910.00	344.60	113.33	2,120.00	1,310.35	358.58
3/3/2009	0.00	5.63	1.88	0.00	5.63	1.88	80.00	66.63	18.88	0.00	1.50	0.50	0.00	12.23	4.08	80.00	91.60	27.20

Table 6-8. (Continued)

Date	Catoctin Creek			Double Pipe Creek			Lower Monocacy			Potomac			Upper Monocacy			Totals		
	Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons	
	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid	Liquid	Salt	Anti-Skid
12/5/2009	0.00	38.63	12.88	0.00	0.00	0.00	400.00	140.00	10.00	0.00	0.00	0.00	50.00	69.32	23.11	450.00	247.94	45.98
12/6&7/09	0.00	0.00	0.00	0.00	1.88	0.63	0.00	66.50	4.00	0.00	10.00	0.00	0.00	3.00	1.00	0.00	81.38	5.63
12/8/2009	360.00	31.88	10.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280.00	28.13	9.38	640.00	60.00	20.00
12/9/2009	0.00	3.75	1.25	0.00	0.00	0.00	0.00	0.38	0.13	0.00	0.00	0.00	0.00	5.63	1.88	0.00	9.75	3.25
12/13/2009	120.00	110.25	53.25	0.00	15.00	5.00	0.00	103.38	15.13	0.00	10.00	0.00	320.00	125.33	41.78	440.00	363.95	115.15
12/18&19/09	980.00	184.00	54.00	80.00	35.25	11.75	875.00	693.75	75.25	0.00	61.50	10.50	860.00	215.98	66.66	2,795.00	1,190.48	218.16
12/20/2009	160.00	86.63	27.88	0.00	14.38	3.13	80.00	308.50	27.00	0.00	47.00	4.00	160.00	119.13	33.38	400.00	575.63	95.38
12/21/2009	0.00	67.38	30.38	0.00	7.50	2.50	0.00	258.63	21.88	0.00	36.00	2.00	0.00	82.70	22.90	0.00	452.20	79.65
12/22&23/09	0.00	28.38	10.50	0.00	3.75	1.25	0.00	38.88	4.63	0.00	55.50	4.50	0.00	33.38	11.13	0.00	159.88	32.00
12/25/2009	1,000.00	136.88	53.13	80.00	27.75	9.25	200.00	330.25	24.75	0.00	49.00	3.00	960.00	195.13	61.88	2,240.00	739.00	152.00
12/27/2009	0.00	2.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	24.00	0.00	8.00	34.00
12/31/2009	1,160.00	231.63	91.13	0.00	33.75	11.25	440.00	496.38	55.13	120.00	63.00	11.00	510.00	289.28	84.09	2,230.00	1,114.03	252.59
Totals	**9920**	**2998**	**1116**	**390**	**411**	**135**	**4795**	**6100**	**1193**	**670**	**839**	**148**	**9840**	**3595**	**1,204**	**25,615**	**13,943**	**3,797**

6. Reducing the Use of Pesticides, Herbicides, Fertilizers and Other Pollutants: The 2002 road maintenance assessment report presented data on two herbicides, Razor and Pendulum, which were used by the County's Office of Highway Operations in 2001. Pendulum, with 37.4% pendamethalin as the active ingredient, was noted to be an environmentally unfriendly chemical with potential impacts to aquatic life. The report recommended that the County review its use and consider alternative treatments. As reported in the 2003 Pesticide/ Herbicide report (Versar 2003) and subsequent NPDES Annual Reports (see Section 6.7), Pendulum was not used during the years 2002-2008. In addition, Gly Star Pro (an herbicide containing glyphosate) was used instead of Razor by the Office of Highway Operations. In 2009, the Office of Highway Operations applied no herbicides, pesticides, or fertilizers. As of 2008, they no longer had a licensed staff person to apply herbicide. They were able to license two staff in 2009. However, licensing occurred so late in the growing season that nothing was sprayed. The Office of Highway Operations currently plans to spray in 2010 assuming funds are available to purchase herbicide.

Evaluation: The County's Office of Highways and Transportation continues to implement the recommendations of the Road Maintenance Report and to experiment with new technology to reduce its activities' impacts on water quality.

6.7 HERBICIDE, PESTICIDE, AND FERTILIZER USE

Because of concern for environmental health, MDE, through the requirements of NPDES MS4 Permits, requires local jurisdictions to evaluate their current uses of pesticides, herbicides, and fertilizers and to seek opportunities to reduce use of these materials. To address this requirement, during 2002-2003, Frederick County sponsored a study to characterize uses of pesticides, herbicides, and fertilizers by County agencies and to identify potential reduction strategies. The following is a summary of practices since the completion of that study, Recommendations for Alternatives to Pesticide/Herbicide/Fertilizer Use for Frederick County, December 17, 2003 (Versar 2003).

6.7.1 Introduction

Frederick County DPW initiated this study in fall 2002 by surveying County divisions about pesticide, herbicide, and fertilizer use at all County-owned facilities and by all Frederick County Government agencies or departments. Five County units were found to apply at least one of these types of chemicals: (1) the Maryland Department of Agriculture's (MDA) Vector Control Program, which works in conjunction with the Frederick County Mosquito Control Program, (2) the Division of Parks and Recreation, (3) Frederick County's Office of Highway Operations, (4) the Frederick County Weed Control Program, and (5) Frederick County Public Schools.

Study results indicated that pesticide/herbicide/fertilizer use by Frederick County did not require any drastic reduction in application practices because County agencies had, in general, already minimized use of these chemicals, or were already using more environmentally acceptable substitutes. In most cases, the overall recommendation was to continue current chemical control practices, while considering possible biological and mechanical controls that could be used in place of, or in combination with, current practices.

A number of practices are already employed by County personnel to control the application of chemicals and, where possible, to use minimal amounts. In general, most Frederick County departments reported applying pesticides on an "as needed" basis, while fertilizer is applied one to three times per year at specific locations. Most of the departments surveyed indicated specifically that application rates were based on label instructions and were made at the lowest rate required for effectiveness. This section provides an overview of the amounts and types of chemicals used from 2004 through 2009.

6.7.2 Herbicide Use

Frederick County's Division of Parks and Recreation and the Frederick County Weed Control Program continue to monitor weather conditions around the time of application; applications are not performed if heavy rain is expected within 2 hours of application. The Weed Control Program continues to verify that application personnel are registered with the MDA Pesticide Regulation Section and are either licensed applicators or work directly under the supervision of one.

As noted in the Road Maintenance Activities section (Section 6.6), Frederick County Highway Operations has discontinued the use of the herbicide Pendulum, which is toxic to aquatic life, and has replaced its use of Razor with Gly Star Pro, another glyphosate herbicide.

Herbicide use by County departments from 2004 through 2009 is presented in Table 6-9.

6.7.3 Pesticide Use

The majority of pesticides currently used in Frederick County continue to be for the control of mosquitoes by MDA's Vector Control Program and for the control of pest insects by Frederick County Public Schools. Both programs continue to use Integrated Pest Management (IPM) programs. IPM programs identify and control pest problems through staff training, inspection, and sanitation practices that minimize and/or eliminate the need for pesticide use. Under IPM, improvements in cleaning, sanitation, occupant education, or other non-chemical methods are required before pesticide use can be authorized.

The pesticides used in 2009 by the Vector Control Program for mosquito control include a larvicide, Vectolax, which contains naturally occurring bacteria commonly found in soils in the United States. This pesticide has not been shown to cause any serious health effects in humans. Also used this year to control mosquitoes was Altosid. It contains a chemical insect growth regulator. This pesticide has not been shown to be harmful to humans. Some formulas used have a residence time and can remain active for 30-150 days. In 2009, the Vector Control Program used Altosid in four different forms: Altosid pellets, Altosid briquets, Altosid XR briquets, and Altosid XR-G. For the first time since tracking pesticide use in the County, Vector control used an adult spray, Anvil 10+10. Application of the adult spray has not been necessary in Frederick County in previous years.

Table 6-9. Herbicide use by County departments from 2004 through 2009

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Frederick County Department of Parks and Recreation	Pesticide	Malthion	2.5 gal	n/a	n/a	n/a	n/a	n/a	1) Pesticides/herbicides applied as needed, fertilizers applied annually; 2) All amounts are undiluted unless otherwise indicated; 3) In 2003, a granular form of Cutrine was used - the amount shown is undiluted; 4) Cutrine Plus: For 2005 the liquid amount reflects dilution and the granular amount reflect no dilution. For 2007 there was no dilution; 5) The 2007 values reflect the total undiluted amounts applied. Values reported in parentheses, if applicable, reflect the diluted amounts used. *Glyphosate **2 packets used @ 1 ounce each
		Bonide	n/a	n/a	n/a	n/a	9 gallons	14 gallons	
		Sevin Liquid	n/a	n/a	18 oz	1.5 oz (10.5 gal)	n/a	n/a	
	Herbicide	Aquashade	11 gal	8 gal	9 gal	3 gallons	9 gallons	n/a	
		Corner Stone*	n/a	n/a	6 gal	12.95 gal (662 gal)	719.5 gallons	258 gallons	
		Cutrine	13 gal	n/a	7 gal	n/a	8 gallons	n/a	
		Cutrine Plus	n/a	10 lbs (granular)/310 gal (liquid)	n/a	3 gal	n/a	n/a	
		Horticulture Oil	n/a	n/a	24 oz	n/a	4 gallons	n/a	
		Malthion	2.5 gal	n/a	n/a	n/a	n/a	n/a	
		Merit Granular	n/a	n/a	8 lb	n/a	n/a	n/a	
		Pramitol 25E	n/a	n/a	n/a	n/a	n/a	n/a	
		Pronto	n/a	n/a	3 gal	0.53 gal (34 gal)	7 gallons	n/a	
		Prosecutor Pro	8 gal	17 gal	15 gal	6.99 gal (335 gal)	176 gallons	262 gallons	
		Ronstar	n/a	n/a	2 oz**	n/a	n/a	n/a	
		Roundup Pro* 524-475	4.5 gal	n/a	0.25 gal	64.63 gal (142.5 gal)	344 gallons	12 gallons	
		Roundup Power 524-549	n/a	n/a	n/a	n/a	n/a	82 gallons	
		Rozel Vole Bait	n/a	n/a	n/a	n/a	n/a	150 lbs	
		Sahara	n/a	n/a	n/a	n/a	n/a	n/a	
		Surflan	n/a	n/a	0.375 gal	n/a	n/a	9.5 gallons	
	Fertilizer	Root Turf Food	n/a	n/a	n/a	n/a	n/a	n/a	
		42-0-0	450 lb	n/a	n/a	n/a	n/a	n/a	

Table 6-9. (Continued)

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Frederick County Department of Parks and Recreation (Continued)	**Fertilizer (Contin-ued)**	18-5-9	7600 lb	n/a	n/a	n/a	n/a	n/a	
		14-3-5	1300 lb	n/a	n/a	n/a	n/a	n/a	
		20-27-5	60 lb	n/a	n/a	n/a	n/a	n/a	
		16-2-3	n/a	n/a	n/a	n/a	10,400 gallons	n/a	
		18-0-18	n/a	9635 lb	n/a	1400 lb	n/a	9200 lbs	
		18-24-10	n/a	18 lb	n/a	n/a	n/a	n/a	
		18-24-12	n/a	2400 lb	n/a	n/a	1300 lbs	n/a	
		46-0-0	n/a	n/a	n/a	n/a	n/a	6711 lbs	
		38-0-0	n/a	n/a	n/a	n/a	750 lbs	n/a	
		39-0-0	n/a	n/a	1400 lb	6850 lb	n/a	n/a	
		21-3-21	n/a	n/a	4350 lb	n/a	n/a	n/a	
		22-3-14	n/a	n/a	n/a	n/a	750 lbs	n/a	
		24-0-12	n/a	n/a	n/a	n/a	200 lbs	n/a	
		29-2-5	n/a	n/a	270 lb	n/a	n/a	n/a	
		34-0-0	n/a	n/a	40 lb	n/a	n/a	n/a	
		30-0-09	n/a	n/a	n/a	n/a	4300 gallons	n/a	
		5-8-5	n/a	n/a	n/a	n/a	6000 gallons	n/a	
		30-3-4	n/a	n/a	80 lb	n/a	n/a	n/a	
		10-10-10	n/a	2400 lb	33 lb	n/a	n/a	n/a	
		28-0-3	n/a	n/a	n/a	n/a	n/a	350 lbs	
Frederick County Public Schools	**Pesticide**	Acephate	n/a	n/a	100 gal	n/a	3 gal	3 gal	(1) Amounts provided for pesticides would be maximum amount. Applied on a very limited, case by case basis. (2) Lime used once a year on competition fields and stadium fields. (3) Milorganite and fertilizers are used three times a year (early winter, spring, and summer) on competition and stadium fields (4) Round-up used "primarily" in the summer months when students not present, typically used on fenced areas where poison

Table 6-9. (Continued)

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Frederick County Public Schools (Continued)	**Pesticide (Continued**	ICT Organics	n/a	n/a	n/a	n/a	n/a	550 gal	ivy has become problem (5) LESCO brand 3 way selective herbicide used, as needed, on competition fields (6) Quantity of Round up reported is DILUTED, applied quantity. Note: 2004 and 2005 quantities were reported as total CONCENTRATE - the total diluted applied would have been less than 2000 gallons, as noted in year 2006 (7) Acephate product used sporadically for severe bag worm infestations.
		Dylox	4000 lbs	4000 lbs	4000 lbs	4100 lbs	100 lbs	n/a	
		Merit	60 lbs	60 lbs	60 lbs	2000 lbs	850 lbs	n/a	
		Statesman Insect control w/Diazinon	n/a	n/a	n/a	n/a	n/a	n/a	
	Herbicide	10-4-2 w/Cavalcade	n/a	n/a	n/a	n/a	n/a	15000 lbs	
		3 way selective	n/a	n/a	720 gal	1000 gal	n/a	385 gal	
		Momentum	n/a	n/a	n/a	n/a	852 gal	n/a	
		Drive 75 DF	n/a	n/a	n/a	n/a	1155 gal	330 gal	
		Roundup	40 gal	40 gal	2000 gal	4000 gal	2000 gal	2000 gal	
	Fertilizer	18-24-12	4000 lbs	4000 lbs	4000 lbs	10000 lbs	n/a	2900 lbs	
		39-0-0	2000 lbs	2000 lbs	6000 lbs	23300 lbs	n/a	n/a	
		15-3-7	4000 lbs	4000 lbs	2000 lbs	n/a	n/a	n/a	
		26-4-18	4000 lbs	4000 lbs	6000 lbs	n/a	n/a	n/a	
		10-10-10	200 lbs	200 lbs	n/a	n/a	n/a	n/a	
		Milorganite 6-2-0	n/a	n/a	n/a	n/a	n/a	n/a	
		Milorganite 14-1-11	n/a	n/a	n/a	n/a	n/a	n/a	
		Sustane 5-2-4 weed/feed	n/a	n/a	500 gal	n/a	n/a	n/a	
		Pelletized Lime	4000 lbs	4000 lbs	6000 lbs	6000 lbs	n/a	1200 lbs	
		5-8-5 (Super 8 organic)	n/a	n/a	n/a	n/a	23950 lbs	1100 lbs	
		16-2-3 (Screaming Green organic)	n/a	n/a	n/a	n/a	20050 lbs	n/a	
		16-2-0	n/a	n/a	n/a	n/a	n/a	27300 lbs	
		Chelated iron	n/a	n/a	n/a	550gal	n/a	n/a	

Table 6-9. (Continued)

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Maryland Department of Agriculture and Frederick County, Weed Control Program	**Pesticide**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Herbicide	Transline	11 gal	12 gal	12 gal	10 gal	12 gal	11 gal	
		Glystar Pro	12 gal	12 gal	15 gal	12 gal	11 gal	11 gal	
		Velpar L	0.50 gal	0.50 gal	0.50 gal	0.50 gal	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Frederick County Office of Highway Operations	**Pesticide**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1) Average Amount Used for 2003-2006 reflects pure Glystar Pro which is mixed at 1.25% to dilute; 2) Average Amount Used for 2007 reflects the undiluted amount applied [A total of 7,675 diluted gallons were applied - for every 100 gallons mixed, equals 1.5 gallons of Glystar Pro and 1 quart of 2,4-D Amine 4]; 3) In 2006, 2,4-D Amine 4 was added to the Glystar Pro to combat broadleaf weeds. The Glystar Pro is only effective against grasses. 4) The overall increase in the amount of Glystar Pro used by Highway Operations is due to the fact that 2005 was the first year they were able to cover everything as planned twice. In previous years, the Highway Operations ran out of money for the product or time to complete the spraying of all of the guardrails. 5) Additional information on 2,4-D Amine 4 can be found at http://www.tcweed.org/pdf's/24amine4label.pdf; 6) In 2008 and
	Herbicide	Glystar Pro	91 gal	147.75 gal	135 gal	78.25 gal	n/a	n/a	
		2,4-D Amine 4	n/a	n/a	27 gal	19.19 gal	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

Table 6-9. (Continued)

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Frederick County Office of Highway Operations (Continued)	**Fertilizer (Contin-ued)**								2009, the Office of Highway Operations applied no herbicides, pesticides, or fertilizers because they did not have a licensed staff person to apply herbicide. Two staff obtained certification in 2009 however, it was too late in the growing season to apply herbicide.
Frederick County Vector Control Program	**Pesticide**	Vectobac G	34 lbs	28 lbs	57 lbs	n/a	n/a	n/a	(1) averages are based on ranges provided; (2) amount depends on precipitation and amount of standing water; (3) season approx 6 months; *Anvil 10+10 is the adult spray - in previous years application has not been necessary in the Frederick area
		Vectolax CG	105 lbs	27 lbs	57 lbs	1.125 lbs	2.62 lbs	3.2 lbs	
		Altosid pellets	51 lbs	65 lbs	98 lbs	5.6 lbs	21.45 lbs	11.2 lbs	
		Altosid 30-day briquets	n/a	n/a	n/a	221	450	366	
		Altosid XR-G (granules)			n/a	n/a	11.1 lbs	6.0 lbs	
		Altosid XR briquets (150-day briquets)	n/a	n/a	n/a	144	n/a	124	
		Anvil 10+10*	n/a	n/a	n/a	n/a	n/a	5.17 gal	
	Herbicide	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Maryland Department of Natural Resources Forest Service	**Pesticide**	Confirm	n/a	n/a	n/a	n/a	320 gal	211 gal	Confirm (insecticide) and Penetrator Plus (surfactant) were applied in 2008 and 2009 in an effort to control gypsy moth.
		Penetrator Plus	n/a	n/a	n/a	n/a	64 gal	42 gal	
	Herbicide	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

Table 6-9. (Continued)

Department	Chemical Name		Average Amount Used						Comments
			2004	2005	2006	2007	2008	2009	
Maryland Department of Agriculture - Office of Forest Pest Management	**Pesticide**	Foray 48B	n/a	n/a	n/a	n/a	8,577.5 gal	5,068.5 gal	(1) Foray 48B and Dimilin 4L are applied to control gypsy moth using an aerial application (fixed and rotary). (2) Bandit 75WSP, IMA-Jet, and Mallet 75WSP are applied to control hemlock woolly adelgid. (3) Bandit 75WSP and Mallet 75WSP contain the same active ingredient and are applied at the same rate - they just have different product names.
		Dimilin 4L	n/a	n/a	n/a	n/a	1,454.25 gal	1,113 gal	
		Bandit 75WSP	n/a	n/a	n/a	n/a	248 oz	n/a	
		IMA-Jet	n/a	n/a	n/a	n/a	3,373 mL	902 mL	
		Mallet 75WSP	n/a	n/a	n/a	n/a	n/a	1,242 oz	
	Herbicide	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

Survey responses indicate that the public schools do not use excessive quantities of pesticides and that these are applied only on an as-needed basis. In addition, one of the pesticides, Merit, is known for its low percentage of active ingredients compared with other pesticides. Use of one pesticide previously used by the school system, Statesman Insect Control with diazinon, was affected by EPA's plans to phase out diazinon for all lawn, garden, and turf use by December 2003. Diazinon is an organophosphate which can affect the nervous system and cause nausea, headaches, vomiting, etc. In addition, diazinon's use on turf poses a risk to birds, and is one of the most commonly found pesticides in air, rain, and drinking and surface water. Therefore, the report recommended that the public schools discontinue use of Statesman Insect Control with diazinon and select a safer, more appropriate product to be used in its place. The Public Schools discontinued the chemical once its (small) inventory was consumed.

Information about the gypsy moth and hemlock woolly adelgid control programs has been included in the 2009 Annual Report because of the growing problem that the two invasive pests have caused, negatively impacting the forests in Frederick County. The gypsy moth and hemlock woolly adelgid management programs are managed by the Maryland Department of Agriculture and the Maryland Department of Natural Resources. In 2008, Frederick County's Board of County Commissioners provided $150,000 in funding to supply a 40% cost share to qualifying landowners who participated in the gypsy moth management program.

Pesticide use by County departments from 2004 through 2009 is presented in Table 6-9.

6.7.4 Fertilizer Use

Fertilizer use by Frederick County agencies is mainly attributed to the Public Schools for maintenance and upkeep of school athletic fields. In addition, the Division of Parks and Recreation uses fertilizers at its facilities. Frederick County Public Schools and the Division of Parks and Recreation regularly test the soil to determine if and how much fertilizer needs to be applied. The Division of Parks and Recreation conducts soil tests every three years and applies fertilizer according to soil test results. The Superintendent is a certified Nutrient Applicator under the State Nutrient Management Program.

The Public Schools used to use one type of organic fertilizer, Milorganite, which is composed of composted sewage sludge, but have since phased out its use.

Fertilizer use by County departments from 2004 through 2009 is presented in Table 6-9.

Evaluation: Frederick County continues to implement responsible use of herbicides, pesticides, and fertilizers. Agencies strive to minimize use of these materials to the lowest rate required for effectiveness. Applicators have proper certification. Integrated Pest Management programs are in place. Earlier evaluations of herbicide use along roadsides led to a shift away from one potentially harmful herbicide to a more environmentally friendly alternative.

6.8 OVERALL PROGRAM EVALUATION

Frederick County continues to significantly build upon and strengthen the various components of its NPDES stormwater management programs. As detailed throughout this report, the past year brought continued progress in many areas. This evaluation is based on program improvements noted over the past year. In addition, the current status of management programs was viewed in relation to the County's program objectives, goals, and NPDES permit requirements.

Frederick County operates an effective stormwater management program; including inspections, enforcement, and implementation of the *2000 Maryland Stormwater Design Manual* including enhancements stressing Environmental site Design etc in accordance with the Stormwater Management Act of 2007 as well as education of the development community on these modifications to stormwater management requirements.

The Environmental Compliance Section (ECS) of the Frederick County Division of Permitting and Development Review conducted 131 preventative maintenance inspections of stormwater management facilities built, approved, and operating within the County, which is on par with its historic average.

Frederick County continues to enhance its illicit discharge detection and elimination (IDDE) program. Specifically, during 2009, the County finalized its Illicit Discharge Detection and Elimination Protocol (Versar 2009) that will serve as the field operations and data management manual for the NPDES dry weather screening program (Appendix M). The protocol establishes a system for consistent reporting, referral, and addressing of potential illicit discharges and develops a mechanism for tracking and reporting to satisfy the County's NPDES permit requirements.

Frederick County has completed a thorough review of County-owned properties and, through coordination with MDE and among County agencies, has obtained all needed NPDES permits. All required permits and No Exposure Certifications have been issued. All permitted County facilities have completed a SWPPP. The County has met all requirements for permitting at County facilities and will continue to review permit needs. Note however that new permits have not been reissued. "The stormwater permit was administratively extended in November, 2007. Facilities that were permitted prior to that time continue to be regulated by the permit and their stormwater pollution prevention plans. NOIs are still being accepted for coverage under the permit. We now expect to have a tentative determination on the permit in late 2009 to early 2010, and to reissue the permit in mid to late 2010…"

Frederick County ECS staff continues to strengthen erosion and sediment control measures. The County's program is currently undergoing field review by MDE. A formal determination of acceptability is expected by January 1, 2010. ECS has implemented several important changes that have allowed a concentration of effort on field inspection and site improvement. Also, several modifications have been made to provide more ways to identify and improve inspector consistency.

Even in this extraordinary economically challenged time, ECS is receiving budgetary support for equipment and automation. County Inspectors are working cooperatively with SCD to enact a

joint approach to plan review and clarify each agency's role in the process. Additional programmatic enhancements have been implemented, as noted above. Through its quarterly reports, the County has met requirements for the electronic reporting of earth disturbances in 2009.

Frederick County recognizes the importance of conducting responsible personnel certification classes ("Green Card" classes) to educate construction site operators about erosion and sediment control requirements. It is Frederick County's goal to conduct regular classes to certify responsible personnel as part of its delegation responsibilities. Four "Green Card" classes were held during 2009, certifying 70 participants.

In 2009, WMS staff continued to make impacts through the County's public outreach and education program. Frederick County addressed permit-suggested outreach topics and met its own goals and objectives from The Strategic Plan to "Improve Water Quality Through Public Outreach in Frederick County, Maryland", published in November 2003.

Continuing county support of the Monocacy & Catoctin Watershed Alliance has provided substantial benefits in public outreach and watershed restoration. A broad array of public outreach events and ongoing activities are now well-established in the County, with a strong base of support from Alliance partner organizations as can be seen in Table 6-5 above.

Frederick County government has been particularly effective in leading well-coordinated efforts involving multiple agencies and organizations working toward common goals for water quality improvements and better management of the County's watersheds. The County has continued to capitalize on opportunities to leverage substantial funding for outreach and restoration. This has allowed the County to accomplish program goals most cost-effectively, despite having a small in-house staff.

County staff has actively sought opportunities for numerous restoration projects, successfully attracting outside funding and establishing key partnerships with other organizations. As detailed in Section 7.5, numerous restoration projects were completed or were in progress throughout the County during 2008, providing considerable, quantifiable benefits in terms of projected reductions in nutrient and sediment loading. The total area treated (approximately 1684 acres) exceeds the County's permit goal. Ongoing implementation of Lower and Upper Monocacy WRAS recommendations, along with projects proposed through the County's restoration and retrofit evaluations, have furthered the County's progress in watershed restoration and will continue to include substantial public involvement. Frederick County has now completed its initial restoration projects through its CIP program as well as supporting and promoting a number of highly effective community restoration projects.

The Frederick County Health Department is leading an effort (with Maryland Bay Restoration Funds) to address nutrient impacts of failing and underperforming On-site Disposal Systems. Throughout Frederick County, 35 OSDS were be upgraded in 2009 and the Health Department continues to distribute a manual about septic system maintenance during site visits.

During 2009, Frederick County continued to implement recommendations from its 2002 assessment of road maintenance practices (Versar 2002). Improved reporting now allows a clearer

picture of trends in pesticide, herbicide, and fertilizer use. Chemical applications that had been suggested for phase-out have been replaced by more environmentally friendly materials by the Frederick County Public Schools and by Highway Operations. Pesticide and fertilizer use by County departments from 2004 through 2009 are presented in Table 6-9.

Information about the gypsy moth and hemlock woolly adelgid control programs has been included in the 2009 Annual Report because of the growing problem that the two invasive pests have caused, negatively impacting the forests in Frederick County.

The Frederick County Recycling Program was able to divert a growing proportion of solid waste from the landfill by promoting recycling among county residents. In Fiscal Year 2009, 16,323.23 tons of waste were collected and recycled from the County's residential curbside and satellite drop off programs (Table 6-6). In 2009, Frederick County reported a recycling rate of 41.39% and a source reduction credit rate of 3% for a combined waste reduction rate of 44.39%.

In 2009, TransIT services experienced record ridership between July and October. TransIT ridership increased for the 13th consecutive year to 791,961 passenger trips, an increase of 7%. Ridership has more than tripled since 2007 and more than doubled since 2003.